

# Work Order ID 55168

January 8, 2010 10:14:18 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 08/01/09 Start Qty: 1.00

Customer ID:

Required Date: 26/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: *PS*

Date: 10-1-08 Tooling:

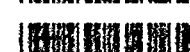
Date:

QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

*8/10/02/08*

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folie FT009

2-Cut tubes as per Dwg. D2580

*1 - AWM 10-1-08*

*55168*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 55168**

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Customer:

Reference:

Run Start

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends

2- C'sink holes as per dwg without cutting fluid

3- Prepare tube for welding, remove alodine as required.

4- Scribe batch number insied aft end of tube.

1 - - AWM 10-1-18

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

(1)

BE 10/01/9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Reference:

Run Start

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R Aluminum Rod

M112860

BE 10/01/20

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI 004.

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R Aluminum Rod

M112860

10/01/20

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 &amp; DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Debur holes

6-Drill pilot holes for all cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Towing using DT8091, open to .640" and Debur

AHM 10-1-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 08/01/2010 Start Qty: 1.00



Customer ID:

Required Date: 26/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

QC10- Inspect visual per QSI004- ground welds

0.00

⇒ S106121



QC

Memo

0.00

Quality Control

160

QC5- Inspect part completeness to step on W/O

0.00

⇒ S106121



QC

Memo

0.00

Quality Control

XL

170

Pressure Wash per QSI005 4.3

0.00

Bk 10-01-26



HandFinish

Memo

0.00

Hand Finishing

D.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 08/01/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 26/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

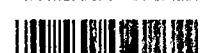
Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



1113170

=> 11

10-01-27

(X1)

0

Powdercoat

Memo

0.00

Powder Coating

START TIME:

7:00AM

OVEN TEMPERATURE:

320°

FINISH TIME:

7:30AM

190

QC3- Inspect Part Finish

0.00



BL 10-01-28.

(1)

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Required Date: 26/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

200

6.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates  
A/R ☐ Sikaflex-291 M112345  
Sikaflex expire date: 10/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive  
A/R ☐ Sikaflex-291 M112345  
Sikaflex expire date: 10/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4  
Batch: M113345

Bl 10-a-28 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Item Name: Replacement Skidtube

Start Date: 08/01/2010 Start Qty: 1.00

Cast ID:

Required Date: 26/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

5/10/12/29

(X)

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

220

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD205-634-041

Location: 73

PPP Rev: 7

10-2-8 SP

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/09 JG  
MF 10-2-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

# Picklist Print

January 8, 2010 10:14:23 AM

Page 1

Work Order ID: 55168

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 02.08.28 FP was QC5 in Step 27: Added QC5 to Step 30. KJ  
 IPP Rev: O 06.02.28 Added paperwork EC  
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets ILM

Start Qty: 1.00

Required Qty: .00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2580-1		Manufactured	No			110	Each	11.0000	1.0000			



205 Skidtube bent detail

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG	7	
54120	1	
54541	2	
54648	2	
54697	2	

Main Warehouse

ST	4	
54500	2	
54647	2	

D2576-3 Manufactured No

140 Each 151.0000 1.0000



Step (maching detail)

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	151	
43504	3	
46661	101	
52215	47	

*AWM 10-1-16*

*1 8E 10-01-20*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



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January 8, 2010 10:14:23 AM

Work Order ID: 55168



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 02.08.28 FP was QC5 in Step 22 Added QC5 to Step 30 KJ  
 IPP Rev: O 06.02.28 Added paperwork EC  
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2579		Manufactured	No			140	Each	381.0000	20.0000			



Crossbolt Spacer

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG 259

51525 4

53780 3

54543 38

54642 214

Main Warehouse

ST 122

43988 4

46434 4

46956 2

47797 9

48272 2

51314 71

51315 30

20 86 20/10/01/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 02/05/28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 IPP Rev: O 06/11/28 Added paperwork EC  
 IPP Rev: P 07/11/09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2855		Manufactured	No			200	Each	159.0000	1.0000			



Cap

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
FP6	159	
50513	1	
50770	1	
51539	42	
53791 ✓	115	

AN3-5A Purchased No

200 Each 1,965.000 2.0000



Bolt

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	1965	
100188	188	
105057 ✓	1777	

1 BR 10-01-28.

1 BR 10-01-28.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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 IPP Rev: O 06.02.28 Added paperwork EC  
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN960JD10L		Purchased	No			200	Each	4,741.000	2.0000			



Washer

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	4741	
101291	16	
104885	16	
105793	105	
109632	170	
110985	4434	

ALS7-1032-130 Purchased No

200 Each 1,494.000 50.0000



Insert

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	1494	
105855	16	
108606	52	
111529	152	
111779	313	
112772	11	
113238	950	

ALS4-1033-130

110511

50

BR 10-01-28.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 02.08.28 LFP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 IPP Rev: O 06.02.28 Added paperwork EC  
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN3C4A		Purchased	No			200	Each	1,181.000	50.0000			
BOLT												

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	1181	
112314	13	
112720	12	
112724	3	
112829	1	
112991	2	
113121	64	
113226	586	
113422 ✓	500	

50 Bk 10-01-28.

AN960C10L	Purchased	No	200	Each	388.0000	50.0000
washer						

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
OFFSHORE		
FG	113288	100
103585		100
Main Warehouse		
ST	288	
112116	128	
112612	160	

50 Bk 10-01-28.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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 IPP Rev: O 06.02.28 [ ] Added paperwork EC  
 IPP Rev: P 07-07-09 [ ] S Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3566-13		Manufactured	No			200	Each	93.0000	1.0000			
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 91  
 51600 9  
 53461 82

Main Warehouse

ST 2  
 45717 1  
 50265 1

D3566-5	Manufactured	No				200	Each	14.0000	1.0000			
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 55026 10  
 53804 10

Main Warehouse

ST 4  
 36113 1  
 46186 1  
 47318 1  
 51260 1

# 1 BK 10-01-08

1 BK 10-01-08.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 8, 2010 10:14:23 AM

Work Order ID: 55168

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IP Rev: N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 IP Rev: O 06.02.28 Added paperwork EC  
 IP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3566-1		Manufactured	No			200	Each	25.0000	2.0000			



Gasket

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP	55011	20
52512		3
54480		17

Main Warehouse

ST		5
46349		1
51218		1
51259		3

D3564-11 Manufactured No

200 Each 15.0000 1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP19		13
52125	✓	13

Main Warehouse

ST		2
45823		1
50112		1

2 PR 10-01-28.

1 PR 10-01-28.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 8, 2010 10:14:23 AM

Work Order ID: 55168

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 IPP Rev: O 06.02.28 Added paperwork EC  
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	List	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3564-13		Manufactured	No			200	Each	33.0000	1.0000			



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP17 21

51611 ✓ 21

Main Warehouse

ST 12

45409 2

46495 10

D3564-9 Manufactured No

200 Each 12.0000 1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP19 10

53806 ✓ 10

Main Warehouse

ST 2

44659 1

45825 1

1 10-01-28

1 10-01-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 8, 2010 10:14:23 AM

Work Order ID: 55168

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 IPP Rev: O 06.02.28 Added paper work EC  
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3564-5		Manufactured	No			200	Each	13.0000	1.0000			



Wearshoe

Warehouse Loc Qty Loc Code

Location

OFFSHORE

FG 54772

2

34806

2

Main Warehouse

FP19

9

51925

1

53805

8

Main Warehouse

ST

2

45824

1

47433

1

D2594-3 Manufactured No

200 Each 346.0000 16.0000



O-Ring, 205 Skidtube

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

27

51613

27

Main Warehouse

ST

319

52562 ✓

319

January 8, 2010 10:14:23 AM

Shop Packet Print

1 BK 10-01-28

16 BK 10-01-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Page 10

January 8, 2010 10:14:23 AM

Work Order ID: 55168

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 08/01/2010

Required Date: 26/01/2010

Comments: IPP Rev: N 16.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 IPP Rev: O 16.02.28 Added paperwork EC  
 IPP Rev: P 17-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit	Qty on	Remaining	Qty	Date	Status
D2594-1		Manufactured	No			200	Each	234.0000	16.0000			



Plug, 205 Skidtube

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
FP 55002	106	
54008	1	
54643	105	
Main Warehouse		
ST	128	
42221	16	
42807	92	
43884	3	
46435	2	
51527	9	
51757	6	

16. 15K 10-01-28.

January 8, 2010 10:14:23 AM

Shop Packet Print

Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

**RELEASED**  
07-06-28 #

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 55148  
BS10-1-08

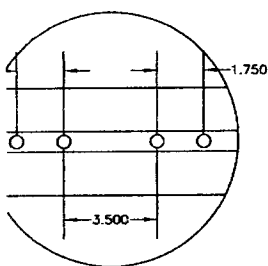
**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

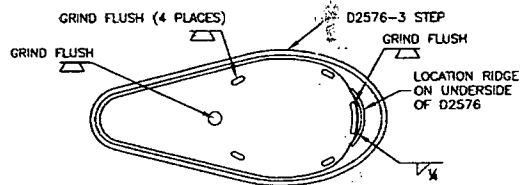
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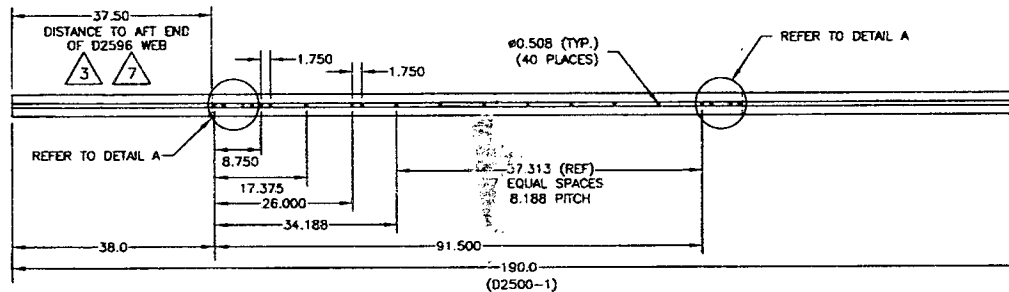
**DETAIL A**  
SCALE 5:24



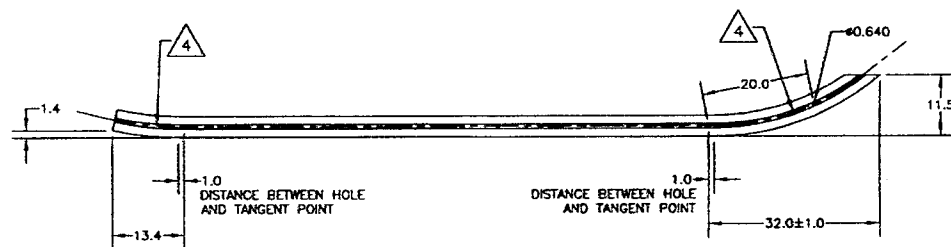
**DETAIL B**  
SCALE 5:2



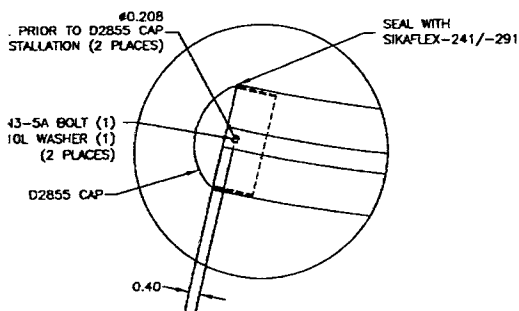
D2580-1 DRILLING DETAIL



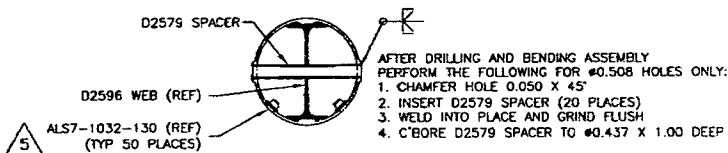
D2580-1 BENDING AND CUTTING DETAIL



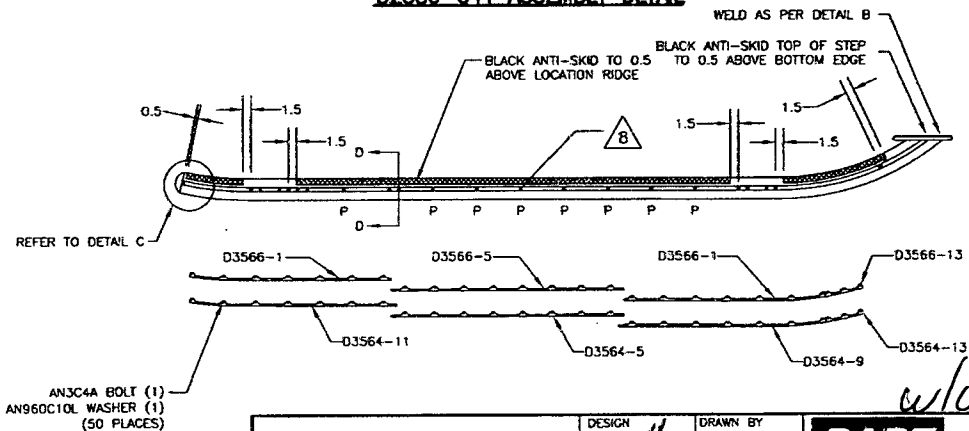
**DETAIL C**  
SCALE 5:24



**SECTION D-D**  
SCALE 5:24



D2580-041 ASSEMBLY DETAIL



-04.1 NOTES

INISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DATE  
07.02.27

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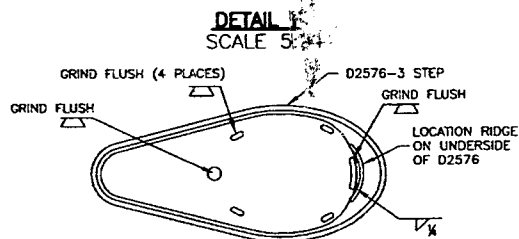
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**DART** DART AEROSPACE LTD.  
HARRISESBURY, ONTARIO, CANADA

DRAWING NO.	REV. 0
D2580	SHEET 2 OF 3

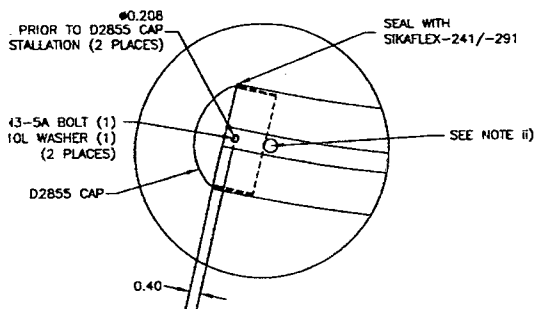
TITLE	SCALE
205 SKIDTUBE ASSEMBLY	1:24

SCALE 5:24

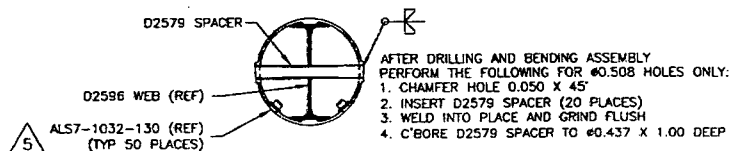


RELEASED  
07 Dec 28

SCALE 5:24



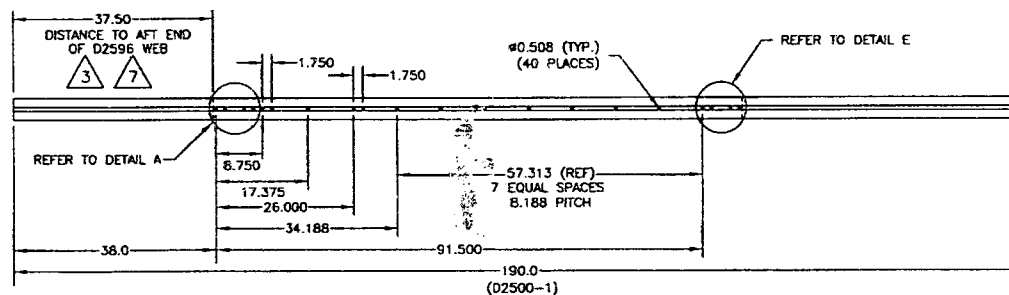
**SECTION H-H**  
SCALE 5:24



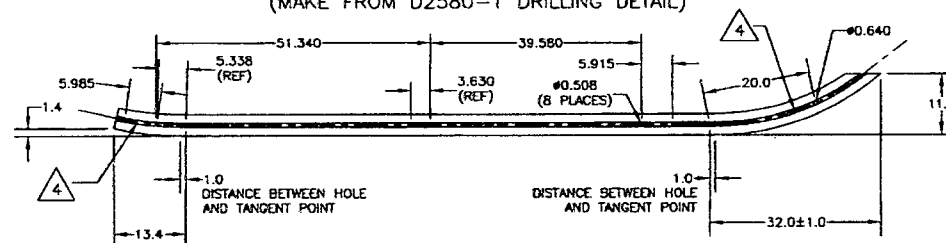
-045 NOTES

IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

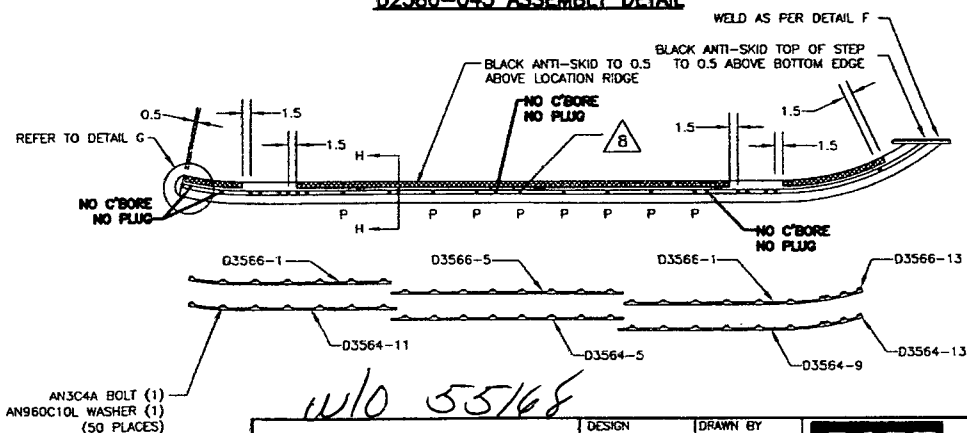
D2580-1 DRILLING DETAIL



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)




## D2580-045 ASSEMBLY DETAIL



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CHECKED [Signature]	APPROVED [Signature]
DATE 07.02.27	

 <b>DART AEROSPACE LTD.</b> WARRICKSBURY, ONTARIO, CANADA	
DRAWING NO.	REV. 0
D2580	SHEET 3 OF 3
TITLE	SCALE
205 SKIDTUBE ASSEMBLY	1:24

NO. 221

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Berclay Elliott  
Job number: 542020  
Part number: D205 634 041  
Description: 205 skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier P.D. Date of Test Coupon 09.12.17

Welder Berclay Elliott Date of Test Coupon 09.12.17

The above named individual is qualified in accordance with AWS D17.1.2001 to weld